

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An oil reconversion device for waste plastics which performs thermal cracking by heating a waste plastic and converts the generated cracker gas into oil by cooling, the oil reconversion device comprising:

a thermal cracking bath which has a bath main body placed inside a coil, the thermal cracking bath being adapted to induction-heat the bath main body by feeding a high-frequency current through the coil, and to thermally crack at least a molten plastic obtained from the waste plastic to generate a cracker gas,

an injection port through which the waste plastic is injected,

a feeder which supplies the waste plastic injected through the injection port to the thermal cracking bath via a forced or direct feeding means without a bath, and

an oil conversion processor which cools and converts the cracker gas generated by the thermal cracking bath into oil,

wherein the thermal cracking bath includes an agitating mechanism having an agitate-scraping unit,

wherein the agitate-scraping unit is adapted to agitate a molten plastic contained in the bath main body, and to scrape the molten plastic adhering to the inner wall of the bath main body, and

the agitate-scraping unit includes a heater capable of heating a top surface of the molten plastic contained in the bath main body,

wherein the feeder is equipped, as a forced feeding means, with an extruder having a heating cylinder, and an extruding screw which melts and extrudes the waste plastic injected into the injection port,

wherein the agitate-scraping unit includes a blade which extends radially from a rotating shaft and which makes contact with an inner wall of the bath main body, and
wherein the heater extends radially from the rotating shaft at a position higher than
the blade.

2. (Currently Amended) The oil reconversion device for waste plastics described in ~~claim 1~~ claim 12, wherein the agitate-scraping unit includes a blade which extends radially from a rotating shaft and which makes contact with an inner wall of the bath main body, and wherein the heater extends radially from the rotating shaft at a position higher than the blade.

3-7. (Cancelled)

8. (Previously Presented) The oil reconversion device for waste plastics described in claim 1, further comprising a residue processor which is adapted to collect and heat residue plastic generated inside the bath main body, and to supply a generated cracker gas to the oil conversion processor.

9. (Previously Presented) The oil reconversion device for waste plastics described in claim 1, further comprising an off-gas processor having a burn processor which is adapted to burn an off-gas generated in processes of sequentially processing the waste plastic at a specified temperature or higher.

10. (Cancelled)

11. (Previously Presented) The oil reconversion device for waste plastics described in claim 8, further comprising an off-gas processor having a burn processor which is adapted to burn an off-gas generated in processes of sequentially processing the waste plastic at a specified temperature or higher.

12. (Currently Amended) ~~The oil-An oil~~ reconversion device for waste plastics described in claim 1 which performs thermal cracking by heating a waste plastic and converts the generated cracker gas into oil by cooling, the oil reconversion device, comprising:
a thermal cracking bath which has a bath main body placed inside a coil, the thermal cracking bath being adapted to induction-heat the bath main body by feeding a high-frequency current through the coil, and to thermally crack at least a molten plastic obtained from the waste plastic to generate a cracker gas,
an injection port through which the waste plastic is injected,

a feeder which supplies the waste plastic injected through the injection port to the thermal cracking bath via a forced or direct feeding means without a bath, and
an oil conversion processor which cools and converts the cracker gas generated by the thermal cracking bath into oil.

wherein the thermal cracking bath includes an agitating mechanism having an agitate-scraping unit,

wherein the agitate-scraping unit is adapted to agitate a molten plastic contained in the bath main body, and to scrape the molten plastic adhering to the inner wall of the bath main body, and

the agitate-scraping unit includes a heater capable of heating a top surface of the molten plastic contained in the bath main body,

wherein the feeder is equipped, as a forced feeding means, with an extruder having a heating cylinder, and an extruding screw which melts and extrudes the waste plastic injected into the injection port,

wherein the blade includes a pair of blades extending orthogonally to the rotating shaft at an angle of 180° with respect to each other, wherein each of the blades is provided with a stack of multiple plates extending radially outward from an end thereof, at least one of the multiple plates of each blade making contact with the inner wall in a bent state.